



Vismo

High precision monitoring, made simple

A precise and coherent analysis of patient information is essential to provide effective care. The Vismo series makes responsible monitoring even easier by assessing problems and showing guidance on how to solve them on-screen.

Suitable for all clinical settings, the new Vismo gives you peace of mind in patient care.



Vismo

Patient Safety

Our technologies contribute to the improvement of patient care:

- Take **faster and gentler non-invasive blood pressure measurements** with standard iNIBP by detecting systolic pressure during inflation of the cuff
- Obtain **volume information through optional esCCO** (estimated continuous cardiac output) from standard parameters such as ECG, SpO₂ and NIBP
- **Early detection of hemorrhagic shock** through the Shock Index value, a supportive parameter for initial evaluations.
- **Calculate the internal workload of hemodynamic response** with the Rate Pressure Product, which measures the stress of the cardiac muscle based on the heart rate (HR) and systolic blood pressure (SBP)
- **Measure fluid responsiveness in a minimally invasive way.** Pulse Pressure Variability and Systolic Pressure Variability are useful indicators to guide fluid therapy for patients on mechanical ventilation
- **Earlier detection of respiratory failure through cap-ONE**, the only mainstream etCO₂ sensor for both intubated and non-intubated patients, nasal or oral breathers.

Accurate Monitoring

By using the same algorithm of Nihon Kohden's high-end monitors, the new Vismo provides accurate and precise measurements. The illustrated, on-screen tutorial will guide you step by step for best results.

- Simple use, for all caregivers
- Recommended measurement method for each parameter
- Guidance for correct attachment of ECG electrodes, SpO₂, probe and NIBP cuff

Reduced Workload

The intuitive new Vismo can reduce the time spent on monitor operation, increasing the time for patient care:

- The interbed function will support you to **manage multiple patients in different rooms.**
- **Smart Cable System**, for optional measurement of etCO₂ and IBP
- The new Vismo is also **lightweight, easy to carry with inbuilt handle and easy to clean**; satisfying the increasing demands for hygienic management.

Specifications

Vismo (PVM-4000 series)

Measuring parameters

PVM-4761/4751/4731	ECG(3/6 lead), respiration (impedance method), SpO ₂ , NIBP, temperature x2, esCCO*
PVM-4763/4753/4733	ECG(3/6 lead), respiration (impedance method), SpO ₂ , NIBP, temperature x2, CO ₂ (mainstream), IBP, esCCO*

* Optional software QP-470P is required

Display screen

Screen	10.4 inch color TFT type LCD
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Waveform display

PVM-4763/4753/4733	Up to 6 traces
PVM-4761/4751/4731	Up to 4 traces
Displayed waveforms on home screen	ECG (up to 2 waveforms), respiration waveform, IBP (up to 2 waveforms), SpO ₂ pulse wave, CO ₂ partial pressure curve

Numeric data display

Heart rate, VPC (per-minute value), ST measurement, SpO₂ value, pulse rate, PI, temperature, NIBP (SYS/DIA/MAP), IBP (SYS/DIA/MAP), PPV, SPV, etCO₂, FiCO₂, QTc, QRSd, RPP, SI With QP-470P; esCCO, esCCI, esSV, esSVI

Alarm

Alarm items	Upper/lower alarms, arrhythmia alarms, interbed alarms, technical alarms
Alarm levels	Crisis (flashes red), Warning (flashes yellow), Advisory (flashes blue or yellow)
Alarm indication	Message, highlighted numeric value, alarm indicator flashes, alarm sound
Turning alarm off	Silencing alarms, alarm reset, suspend alarms, all alarms off
Alarm escalation	Apnea, SpO ₂ lower, technical alarm (check electrodes, cannot analyze, check SpO ₂ probe)
Alarm trigger delay	RR upper/lower: 0 to 30 seconds HR/PR upper/lower: 0 to 10 seconds SpO ₂ : 0 to 30 seconds

ECG

Leads	3-electrode cable: I, II, III 6-electrode cable: I, II, III, aVR, aVL, aVF, 2 from V1 to V6
Number of waveforms	Up to 6 (all leads page)
Arrhythmia alarm items	25 items: (ASYSTOLE, VF, VT, EXT TACHY, EXT BRADY, VPC RUN, V BRADY, SV TACHY, TACHYCARDIA, BRADYCARDIA, PAUSE, COUPLET, EARLY VPC, MULTIFORM, V RHYTHM, BIGEMINY, TRIGEMINY, FREQ VPC, VPC, A-Fib, End A-Fib, IRREGULAR RR, PROLONGED RR, NO PACER PULSER, PACER NON-CAPTURE)
ST level measurement	Number of measurement channels: 3-electrode: 1 ch 6-electrode: 2 ch
QTc/QRSd measurement	QTc/QRSd lead: All, Trace 1, Selected lead

Respiration (impedance)

Measuring method	Impedance method
Number of channels	Selectable from R-F and R-L
Respiration rate counting range	0 to 150 counts/min

Non-invasive blood pressure (NIBP)

Measuring method	Oscillometric
Measuring range	0 to 300 mmHg
Accuracy	±3 mmHg
Operation mode	Manual, STAT, periodic, SIM
Other display	Oscillation graph, PR, Cuff pressure (displays cuff pressure during measurement), RPP, SI
Venous puncture mode	Available (target pressure is settable)
Measurement mode	Adult/child or neonate is recognized by connected air hose
PWTT triggered NIBP measurement	Available
RPP	Available
SI	Old data display: Dim or hide
Time setting until data is recognized as old	5, 10, 30min, 1, 24 hours

SpO₂

SpO ₂ Technology	Nihon Kohden SpO ₂ : PVM-4761/4763 Nellcor SpO ₂ : PVM-4751/4753 Masimo SpO ₂ : PVM-4731/4733
Alarm item	SpO ₂ , PR
Sync sound tone setting	81-100, 40-100%

Temperature

Complies with	ISO 80601-2-56:2009
Thermistor probe	400 series (YSI)
Number of channels	Up to 2
Delta TEMP	Available
Measuring range	0 to 45°C, 32 to 113°F
Measuring accuracy*	±0.2°C (0°C ≤ TEMP < 25°C) ±0.1°C (25°C ≤ TEMP ≤ 45°C)

* Essential performance in EMC standard

Invasive blood pressure (IBP) (PVM-4763/4753/4733)

Complies with	IEC 60601-2-34: 2011
Calculation	PPV, SPV
Number of channels	Up to 2
Measuring range	-50 to 300 mmHg

CO₂ (Mainstream method, PVM-4763/4753/4733)

Calculation method	TG-900P/TG-920P: semi-quantitative TG-980P: quantitative
CO ₂ measuring parameter	TG-900P/TG-920P: etCO ₂ TG-980P: etCO ₂ , CO ₂ (I)
CO ₂ measuring range	TG-900P/TG-920P: 0 to 100 mmHg TG-980P: 0 to 150 mmHg

esCCO (optional QP-470P is required, PVM-4761/4763 only)

Measuring method	Estimated continuous non-invasive cardiac output derived from pulse wave transit time
Measured parameters	esCCO, esCCI, esSV, esSVI

ECG/BP output

ECG waveform output	Output the ECG on the first trace
BP waveform output	Output the IBP waveform
HT pulse output	Outputs pulse based on the ECG on the first trace

Operating environment and power operating environment

Temperature	5 to 40°C (41 to 104°F)
SpO ₂ accuracy is guaranteed at surrounding temperature of 18 to 40°C (64.4 to 104°F)	
Relative humidity	15 to 85% RH (non-condensing)
Atmospheric pressure	700 to 1060 hPa
Power Line voltage	AC: 100 to 240 V DC: (battery): 10.8 V
Power input	AC: 125 VA DC (battery): 35 W
Line frequency	50 or 60 Hz Battery charging current: 2270 mA

Dimensions and weight (approximate)

PVM-4000 series bedside monitor	276 W × 237 H × 143 D mm 3.3 kg
WS-470P recorder unit	166.5 W × 67.5 H × 95.2 D mm 0.375 kg
QI-470P Interface	124.5 W × 123.5 H × 41.5 D mm 0.125 kg

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